

REMARKS

This amendment is responsive to the non-final office action mailed April 5, 2006. Claims 1, 3, 16, 20, and 22 have been amended. Claims 4-10, 14, 15, 23, 25, and 27-49 have been withdrawn by the Examiner. New claims 50-55 have been added to further distinguish aspects of the claimed invention. The new claims read on elected Group I, Implant Species I (Figure 3A) and are fully supported by Applicants' original disclosure. No new matter has been added. The specification has been amended to identify already existing alphanumeric references already existing in the drawings but not previously described, as explained below.

Following entry of this amendment, the currently pending claims in this application are 1-3, 11-13, 16-22, 24, and 50-55.

Specification Amendment

Paragraph 0048 has been amended to merely add a description for alphanumeric references D1 and D2 already shown in FIG. 3C. These references were included in the application as originally filed and therefore do not represent new matter. Entry of this amendment is respectfully requested.

Claims Rejections Under 35 U.S.C. 102

Claims 1-3, 11-13, 16, 17, 20-22 and 24 stand rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent 6,342,055 to Eisermann et al. ("Eisermann"). Claims 1-3, 11-13, and 16-18 stand rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent Application Publication 2002/0165545 to Happonen et al. ("Happonen"). These rejections are respectfully traversed in view of the claim amendments presented herein to independent claims 1 and 20; all other rejected claims depend from claims 1 and 20. These rejections are collectively addressed with respect to both references and the independent claims first.

Independent claims 1 and 20 are directed to a bone implant with surface indicator. As amended, both claims recite "at least two fastener holes extending from said top surface to said

bottom surface, at least one hole having a first diameter at said top surface.” Claim 1 further requires “a recessed region recessed in said top surface that provides a tactile indicator for identifying the top surface of the implant, said recessed region extending at least partially between said at least two fastener holes, said recessed region or groove having a width measured at said top surface of said implant that is no greater than said first diameter of said hole.”

Similarly, claim 20 further requires “at least one elongate groove recessed in said top surface and extending partially between said top and bottom surfaces, said elongate groove extending at least partially between said at least two fastener holes, said groove having a width measured at said top surface of said implant that is no greater than said first diameter of said hole.” Neither Eisermann nor Happonen, alone or in combination, teaches or fairly suggests a bone implant with surface indicator as now recited in claims 1 and 20.

Eisermann discloses a vertebrae fixation plate having stress-controlling ridges 90 that forms a wide recessed top surface 92. (*See, e.g.*, Eisermann, col. 7, lines 49-55 and FIGS. 4&5.) The recessed surface is significantly wider than a fastener hole and spans virtually the entire top of the plate, except for the ridges at the sides of the plate. Therefore, Eisermann does not teach or suggest “said recessed region” (claim 1) or “said groove” (claim 20) “having a width measured at said top surface of said implant that is no greater than said first diameter of said hole,” as required by Applicants’ claimed invention. Accordingly, amended claims 1 and 20 are distinguishable and not anticipated by Eisermann.

Happonen discloses a bone plate having shaping sections or areas 6, which in one embodiment are created by edge recesses 7 in the top of the plate. (*See, e.g.*, Happonen, para. 0028 and FIGS. 1&2.) Happonen does not teach or suggest “said recessed region” (claim 1) or “said elongate groove” (claim 20) “extending at least partially between said at least two fastener holes,” as required by Applicants’ claimed invention. Accordingly, amended claims 1 and 20 are distinguishable and not anticipated by Happonen.

Considering Applicants’ invention as whole, MPEP 2141.02 (citing *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983), neither Eisermann nor Happonen recognizes or provides a solution to the problem overcome by Applicants’ invention in the manner as now claimed. Applicants’ invention recited in independent claims 1 and 20

provides a top surface indicator suitable for small plating systems often referred to as mini plates, such as those used in craniofacial surgical procedures. As noted in Applicants' disclosure, surgeons may encounter difficulties in trying to identify the top surface of small fracture fixation plates, particularly if the plate is made from a relatively translucent material such as a resorbable polymer. (See Applicants' disclosure, paragraph 0006.) The claimed invention overcomes this problem by providing a surgeon with a means to tactilely identify the top surface of the plate and ensure its proper orientation when applied to the bone, while advantageously not compromising the strength of the plate by limiting the width of the recessed indicating area or groove as now recited in independent claims 1 and 20. This avoids excessive reduction in the cross-sectional area of the plate and accompanying reduction in strength.

By contrast, Eisermann is directed to a plate for anterior fixation of bones or vertebrae in the cervical spine which is "large enough to span at least two vertebrae with the plate." (Eisermann, col. 2, lines 37-44.) Eisermann is concerned with spinal fixation problems such as bone screw backout and post-operative imaging (e.g., X-ray, MRI, etc.) problems. (See, e.g., Eisermann, col. 1, lines 33-45 and col. 2, 10-35.) Happonen is also distinguishable and directed to a bone plate having recesses with placement especially selected to optimally reduce the shaping resistance of the plate (Happonen, paragraphs 0008 and 0009.). This placement makes the plate more readily bendable and is an attempt to overcome contouring problems with prior art bone plates that must be bent to match the needed profile of the bone to which it is applied (Happonen, paragraph 0006). In sum, Applicants' claimed invention as a whole is distinguishable from Eisermann and Happonen for at least these additional foregoing reasons.

In sum, independent claims 1 and 20 as amended are believed to be allowable. Claims 2-3, 11-13, and 16-19 depend from claim 1 and thus contain all of its limitations. Accordingly, these claims are allowable for the same reasons as claim 1 and for the additional limitations added by these claims which further distinguish over the prior art. Claims 21, 22, 24, and 26 depend from claim 20 and thus contain all of its limitations. Accordingly, these claims are allowable for the same reasons as claim 20 and for the additional limitations added by these claims which further distinguish over the prior art. Accordingly, reconsideration and allowance of all of these claims is respectfully requested.

Claim Rejections Under 35 U.S.C. 103

Claims 18, 19, and 26 stand rejected under 35 U.S.C. 103 as being unpatentable over Eisermann in view of United States Patent 6,093,201 to Cooper ("Cooper"). Claims 18 and 19 depend from independent claim 1 and contain all of its limitations. Accordingly, these claims are allowable for the same reasons as claim 1 and for the additional limitations added by these claims which further distinguish over the prior art. Claim 26 depends from independent claim 20 and contains all of its limitations. Accordingly, claim 26 is allowable for the same reasons as claim 20 and for the additional limitations added by this claim which further distinguishes over the prior art.

New Claims

Claim 50 depends from claim 1 and contains all of its limitations. Accordingly, claim 50 is allowable for the same reasons as claim 1 and for the additional limitations added by this claim which further distinguishes over the prior art. Claim 51 depends from claim 20 and contains all of its limitations. Accordingly, claim 51 is allowable for the same reasons as claim 20 and for the additional limitations added by this claim which further distinguishes over the prior art.

Claims 52-55 are directed to a resorbable bone plate having top surface tactile indication. Claims 52, 54, and 55 are independent.

Claim 52 requires "an elongate recessed region recessed in said top surface that provides a tactile indicator for identifying the top surface of the implant, said recessed region spaced away from said sides of said plate and having a width measured at said top surface of said implant that is no greater than approximately said first diameter of said hole." None of the cited references teaches or fairly suggests, either alone or in combination a resorbable bone plate having such features as recited by claim 52. Accordingly, claim 52 is believed to be allowable. Claim 53 depends from claim 52 and contains all of its limitations. Accordingly, claim 53 is believed to be allowable for the same reasons as claim 52.

Claim 54 requires "a longitudinally-extending groove recessed in said top surface that provides a tactile indicator for identifying the top surface of the implant, said groove intersecting

at least one of said holes, said groove having a width at said intersected hole being no greater than said first diameter of said hole." None of the cited references teaches or fairly suggests, either alone or in combination a resorbable bone plate having such features as recited by claim 54. Accordingly, claim 54 is believed to be allowable.

Claim 55 requires "an elongate recessed region recessed in said top surface that provides a tactile indicator for identifying the top surface of the implant, said recessed region spaced away from said sides of said plate and having a width measured at said top surface of said implant, wherein said width of said plate is at least about three times said width of said recessed region. None of the cited references teaches or fairly suggests, either alone or in combination a resorbable bone plate having such features as recited by claim 55. Accordingly, claim 55 is believed to be allowable.

Conclusion

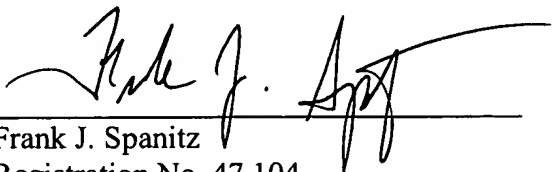
In view of the foregoing, Applicants respectfully request favorable reconsideration and allowance of all pending claims. Should the Examiner disagree with the allowability of any of the claims, the Examiner is respectfully requested to contact Applicants' undersigned representative at 212-309-6375 to resolve any issues that may remain.

Respectfully submitted,

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